11. An atomic force microscope as recited in claim 5, further comprising:

a second position detector; and

a beam splitter that intercepts light from said light source after said light passes through said optical assembly and before said light strikes said cantilever, said beam splitter directing a portion of light emitted from said light source onto said second position detector.

12. An atomic force microscope as recited in claim 5, further comprising:

a body of fluid disposed onto at least a portion of said sample,

said fluid cell comprising upper and lower surfaces,

wherein said fluid is adjacent said lower surface of said fluid cell and further wherein said light beam from said light source strikes said upper surface and passes through said fluid cell and is incident on said cantilever.

13. An atomic force microscope as recited in claim 12, wherein at least one of said upper and lower surfaces of said fluid cell is substantially parallel to said cantilever.

14. A method of operating an atomic force microscope including an optical lever system having a light source, a cantilever, a position detector, a fluid cell including a cantilever mount having a transparent surface through which light from the light source is incident on the cantilever and a body of fluid disposed between the cantilever mount and a sample and in which the cantilever is immersed, and a steering lens assembly attached to a steering mechanism, the method comprising the steps of:

generating light;

passing said light through said transparent surface of said cantilever mount onto said cantilever using said steering lens assembly so that said light strikes a substantially fixed position on said cantilever during movement of said scanning mechanism; and

receiving a reflected light from said cantilever using said position detector to detect an angular deflection of said cantilever.

15. A method as recited in claim 14, further comprising the steps of:

splitting said light into a first beam which strikes said cantilever and a second beam which is directed to a second position detector.

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